

FORM PTO-1390 (Modified)  
(REV 11-2000)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

**TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)  
CONCERNING A FILING UNDER 35 U.S.C. 371**

294-115 PCT/US

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR

**10/019509**

INTERNATIONAL APPLICATION NO.

**PCT/NL00/00478**

INTERNATIONAL FILING DATE

**July 7, 2000**

PRIORITY DATE CLAIMED

**September 7, 1999**

TITLE OF INVENTION

**Proteinaceous Coating**

APPLICANT(S) FOR DO/EO/US

**van Hassel, Johannes, Petrus, Stanislaus, Maria and Meints, Hendrik**

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (24) indicated below.
4. ☒ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))
  - a. ☐ is attached hereto (required only if not communicated by the International Bureau).
  - b. ☒ has been communicated by the International Bureau.
  - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
  - a. ☐ is attached hereto.
  - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
  - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
  - b. ☐ have been communicated by the International Bureau.
  - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
  - d. ☒ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).
11. ☒ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
12. ☒ A copy of the International Search Report (PCT/ISA/210).

**Items 13 to 20 below concern document(s) or information included:**

13. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☒ A **FIRST** preliminary amendment.
16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
17. ☐ A substitute specification.
18. ☐ A change of power of attorney and/or address letter.
19. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
20. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
21. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
22. ☒ Certificate of Mailing by Express Mail
23. ☒ Other items or information:

**Copy of the international patent application as published under International Publication Number WO 01/04223 A1.****EXPRESS MAIL CERTIFICATE**

Date: 12-21-01 Label No: EL79915910 US  
 I hereby certify that the date indicated above, I deposited this paper or file  
 with the U.S. Postal Service and that it was addressed for delivery to the  
 Commissioner for Patents, Washington, DC 20231 by "EXPRESS MAIL  
 Post Office to Addressee" Service.

Joan Neubert  
 (Print Name)

Joan Neubert  
 (Signature)

U.S. APPLICATION NO. (UNKNOWN) REF 37 CFR <div style="font-size: 24pt; font-weight: bold; text-align: center;">10/019509</div>	INTERNATIONAL APPLICATION NO. PCT/NL00/00478	ATTORNEY'S DOCKET NUMBER 294-115 PCT/US
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24. The following fees are submitted:

**BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) :**

<input type="checkbox"/> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO . . . . .	\$1040.00
<input checked="" type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO . . . . .	\$890.00
<input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO . . . . .	\$740.00
<input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) . . . . .	\$710.00
<input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) . . . . .	\$100.00

**ENTER APPROPRIATE BASIC FEE AMOUNT =**

	\$890.00
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Surcharge of \$130.00 for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (e)).

	\$0.00
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CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	
Total claims	10 - 20 =	0	x \$18.00	\$0.00
Independent claims	2 - 3 =	0	x \$84.00	\$0.00
Multiple Dependent Claims (check if applicable)			<input type="checkbox"/>	\$0.00
<b>TOTAL OF ABOVE CALCULATIONS =</b>				<b>\$890.00</b>

☐ Applicant claims small entity status. See 37 CFR 1.27). The fees indicated above are reduced by 1/2.

	\$0.00
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**SUBTOTAL =**

	\$890.00
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Processing fee of \$130.00 for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (f)).

	\$0.00
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**TOTAL NATIONAL FEE =**

	\$890.00
--	----------

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable).

	\$0.00
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**TOTAL FEES ENCLOSED =**

	\$890.00
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	Amount to be: refunded	\$
	charged	\$

a. ☒ A check in the amount of **\$890.00** to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. \_\_\_\_\_ in the amount of \_\_\_\_\_ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. **08-2461**. A duplicate copy of this sheet is enclosed.

d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

**NOTE:** Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

**Ronald J. Baron, Esq.**  
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 United States of America

Telephone: 516-822-3550  
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SIGNATURE

**Ronald J. Baron**

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 NAME

**29,281**

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 REGISTRATION NUMBER

**December 20, 2001**

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 DATE

Page 2 of 2

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s)	van Hassel, et al.	Examiner:	Unassigned
Serial No:	Unassigned	Group Art Unit:	Unassigned
Confirmation No:	Unassigned	Docket:	294-115 PCT/US
Filed:	Herewith	Dated:	December 21, 2001
For:	PROTEINACEOUS COATING		

Commissioner for Patents  
Washington, DC 20231

*I hereby certify this correspondence is being deposited  
with the United States Postal Service as Express Mail  
No EL709115910US, postpaid in an envelope, addressed  
to: Commissioner of Patents, Washington, D.C. 20231  
on December 21, 2001*

Signature: *Gona M. Hewbert*

PRELIMINARY AMENDMENT

Sir:

In order to place the application in proper form for examination, Applicants hereby  
amend the specification as follows:

IN THE SPECIFICATION:

On page 1, before line 1, after the title, please insert the following:

This application is the U.S. National Phase of International Application Number  
PCT/NL00/00478 filed on July 7, 2000, which is incorporated herein by reference.

BACKGROUND OF THE INVENTION

Amend page 3, after line 2, please insert the following:

OBJECTS AND SUMMARY OF THE INVENTION

1013509 041502  
2014-06-25

**IN THE CLAIMS:**

Please amend Claims 3, 7, 8, and 9 to read as follows:

3. (Amended) A composition according to claim 1, wherein the cross-linking or matrix forming gent is polyvinylalcohol.

7. (Amended) A method according to claim 5, wherein the contamination comprises graffiti, algae, moss or fungi growth.

8. (Amended) A method according to claim 5, wherein contamination is removed from said surface by removing the coating on which the contamination is deposited

9. (Amended) A method for applying a lacquer or paint pattern or picture on a surface comprising masking at least a part of said surface by applying a coating of a composition according to claim 1, and further comprising applying lacquer or paint to said surface.

**REMARKS**

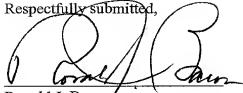
Applicants have undertaken to amend the specification and claims to insert headings in accordance with U.S. practice and to eliminate multiple dependencies so that all claims are singly dependent from a previous claim. No new subject matter has been introduced as a result of this Amendment. As a result of the present Amendment, Claims 1-10 remain in the application for purpose of prosecution.

As a result of this Amendment no additional fees should be assessed as a result of filing multiple dependent claims. Therefore, since new matter has not been introduced as a result of this Amendment, entry hereof and examination and favorable consideration are

Applicants: van Hassel, et al.  
Serial No: Unassigned  
Filed: Herewith  
Our Docket: 294-115 PCT/US  
Page 3

respectfully requested. Any questions regarding this matter should be directed to the undersigned.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Ronald J. Baron', written over a horizontal line.

Ronald J. Baron  
Registration No: 29,281  
Attorney for Applicant(s)

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(516) 822-3550  
RJB/jmn

2025-09-04 14:00:00

**VERSION OF AMENDMENT WITH MARKS**  
**TO SHOW CHANGES MADE**

**IN THE SPECIFICATION:**

On page 1, before line 1, after the title, please insert the following:

This application is the U.S. National Phase of International Application Number PCT/NL00/00478 filed on July 7, 2000, which is incorporated herein by reference.

**BACKGROUND OF THE INVENTION**

Amend page 3, after line 2, please insert the following:

**OBJECTS AND SUMMARY OF THE INVENTION**

**IN THE CLAIMS:**

Please amend Claims 3, 7, 8, and 9 to read as follows:

3. (Amended) A composition according to claim 1 [or 2], wherein the cross-linking or matrix forming gent is polyvinylalcohol.

7. (Amended) A method according to claim 5 [or 6], wherein the contamination comprises graffiti, algae, moss or fungi growth.

8. (Amended) A method according to claim 5 [any of the claims 5-7], wherein contamination is removed from said surface by removing the coating on which the contamination is deposited

9. (Amended) A method for applying a lacquer or paint pattern or picture on a surface comprising masking at least a part of said surface by applying a coating of a composition according to claim 1 [any of the claims 1-4], and further comprising applying lacquer or paint to said surface.

10. (Amended) A method for applying a lacquer or paint pattern or picture on a surface comprising masking at least a part of said surface by applying a coating of a composition according to claim 1 [any of the claims 1-4], and further comprising applying lacquer or paint to said surface.

PTO/PCT Rec'd 21 DEC 2001

Title: Proteinaceous coating

The invention relates to coatings to protect surfaces against the undesired effects of deposits or contamination, such as graffiti, algae, moss or fungal growth or other environmental contamination.

- 5 Keeping surfaces clean these days often requires special attention. Many surfaces exposed to the environment are continuously at risk of being contaminated by undesired deposits, such as soot, grease, traffic dust, pollution, accidental stains, etc. Wilful  
10 contamination of a surface often is seen in the form of graffiti or scrawl on walls, doors, pillars, windows, roofs and other surfaces of buildings. Also, growth of algae, moss or fungi on surfaces is in many cases undesired. Especially surfaces under damp or wet  
15 conditions, such as north- or east exposed surfaces, or surfaces in bathroom or kitchen are susceptible to algae, moss or fungal growth. Algae or fungi or symbiotic populations of algae and fungi occur particularly on surfaces painted with water based paint. Underwater  
20 surfaces, such as on docks or ships, in particular are prone to algae growth.

- Furthermore, packing material, such as wrapping paper or carton, pallets, wood chips or organic fibers, is often treated with fungicide to prevent fungal growth,  
25 especially on its surface, for example due to damp conditions that are seen during transport over seas, or transport under other circumstances that promote fungal growth.

- Above surfaces need protection against such  
30 undesired contamination, yet other surfaces need only be partly protected or masked, e.g. in those case where paint or lacquer patterns or pictures need to be applied,



requiring masking only part of the (irregular) surface with a coating, after which a paint or lacquer is applied to the uncoated part. The masking coating is removed when the desired pattern or picture has been applied.

- 5        Several surface coatings exist that serve to protect a surface under above mentioned circumstances. The application of permanent coatings is well known in the case of protection against graffiti. Often, such coatings comprise polyurethane, epoxy, or combinations thereof.
- 10      Disadvantages of permanent surface coatings is that they are often clearly visible, that it is often required to clean the surface thoroughly before applying it, and that the graffiti needs to be removed by applying, often harsh, chemical solvents.
- 15        In contrast to permanent coatings, self-sacrificing coating systems exist, that are removed together with the contamination. Several self-sacrificing systems exist, for example several based on a copolymer, which however need to be removed with a corresponding chemical solvent,
- 20      several based on an acrylate dispersion, which need to be removed with, often harsh, alkaline solvents, and several based on polysaccharide (see for example EP 0365 584 B1) which have the advantage that they can be removed with water, making them however less suitable for outdoor use.
- 25      In general, self-sacrificing systems last only for a short time on a surface and need to be re-applied frequently.

- Furthermore, semi-permanent coating systems are known which are in general a combination of a first layer
- 30      of a permanent coating as above, combined with a top layer of a self-sacrificing system.

- For antifungal treatment of packing material, said material is often sprayed with a more or less dense coating comprising a fungicide. However, clearly due to
- 35      the toxicity of a fungicide, treatment with fungicides is

at most times undesired, especially when transporting edible goods or products that are retailed directly.

It is an object of the present invention to provide an alternative coating system that preferably avoids most, if not all, of the disadvantages of the coating systems mentioned above.

The invention provides a surface coating comprising a proteinaceous substance or derivatives thereof, capable of protecting surfaces against the undesired effects of deposits or contamination as varied as scrawl or graffiti, algae, moss or fungal growth, brines, or other contamination. In a preferred embodiment, said proteinaceous substance comprises a mixture of a relatively elastic protein and a relatively viscous protein. Elasticity and viscosity are preferred to provide superior coating characteristics. In a preferred embodiment, said proteins are capable of forming multimeric complexes to further enhance the coating capacity of the proteinaceous substance. Preferred proteinaceous substances can be found among animal proteins such as collagen and/or gelatin, or among plant proteins such as storage proteins. Recombinant proteins have the advantage that they can specifically be designed for inclusion in a coating for distinct purposes, however, have the disadvantage of price. In a most preferred embodiment, the invention provides a surface coating comprising gluten. Gluten are in general relatively water-insoluble proteins from for example wheat and other edible grasses, comprising in general a mixture of two proteins (each of which are suitable for use in a coating as provided by the invention): glutenins and gliadins, which contain in general 30-50% glutamine (Q) and 10-25% proline (P). Glutenins are of high molecular weight, comprising from 500-1000 amino acid molecules, covalently bound head-to-tail by disulfide

bridges, forming multimeric complexes. Glutenins are in general responsible for the elasticity and extensibility of the gluten. The gliadins are of lower molecular weight, comprising from 250 to 600 amino acids, are monomeric, and are in general responsible for the viscosity of the gluten.

Advantages of a proteinaceous coating is that it is in essence bio-degradable, it is not toxic for man, animals plants and environment, cannot or only little burn, and is a renewable source being a natural product. Applying a proteinaceous coating results in a relatively elastic film, due to the presence of elastic protein, while it can easily be applied due to the viscosity generated by a viscous protein. Furthermore, the relative water-insolubility of a proteinaceous substance allows outdoor use. The proteinaceous film can furthermore simply be removed with water despite its relative water-insolubility, e.g. by applying a high-pressure sprayer, without having to resort to chemical solvents or other corrosive or abrasive techniques, and less expensive over existing coatings.

In a preferred embodiment, the invention provides a surface coating comprising gluten wherein said gluten is derived from wheat, or other gluten (derivatives) easily obtainable in the field. Preferably, said gluten or derivatives thereof are dispersed in a fluid that easily can be applied to the specific surface to be treated; thickness and other characteristics of such a fluid can easily be changed to accommodate diverse needs related to diverse surfaces.

Preferred is a surface coating according to the invention wherein said proteinaceous substance or derivatives thereof are dispersed in a fluid comprising at least a crosslinking-agent, or a matrix forming agent such as polyvinylalcohol, preferably in a range from 0.5 to 20, more preferably 1 to 10, most preferably 2 to 8%

(crosslinking) agent. Crosslinking agents are well known in the art. Crosslinking provides a coating according to the invention with a better resistance to water, at least to cold water, whereby said coating as provided by the invention is better resistant to weather influences such as rain and sleet, and subsequent drying. Removing it simply requires the use of warm or hot water.

A surface coating according to the invention can be applied on a great variety of surfaces, for example wherein said surface is a mineral, such as brickwork or masonry, concrete, plaster, stone, glass; a metal such as iron or steel, aluminium, copper; a plastic such as (synthetic) rubber, polymethylmetacrylate, polycarbonate, polyurethane, epoxy, polyvinylchloride, polypropylene, ureumformaldehyde, polyesters or wood, including painted wood. Foreseen applications are use as biodegradable coating or as active ingredient of an other protective system on food- and feed products to avoid (effects of) contamination and or pollution. Use as a biodegradable coating or active ingredient of an other protective system on walls, roofs, floors, (outside) furniture, fences, screens to avoid the build up or to remove the green film containing algae and other organisms. Use as a biodegradable coating or as an active or passive ingredient of an other protective system e.g. for all types of packaging materials e.g. wood materials and pallets. Use as a solid component added to a matrix or to a coating as an active or passive ingredient, as part of an other protective system consisting of; wood or based on wood, a synthetic material or based on a synthetic material, natural polymers or based natural polymers, concrete or based on concrete, clay or based on clay. Use as an additive to water containing systems to prevent or remove the green film or haze. Use as herbicide to prevent or inhibit or destroy plant growth. Use as fungicide. Use as pesticide. Use for treatment of thatched or tiled roofs and such, to avoid and/or remove

primarily green films containing algae, fungi, moss and such, thereby protecting the roof from the deteriorating effects of these growths.

Painted surfaces in general are advantageously  
5 treated with a surface coating according to the invention to protect them against contamination or the undesired effects thereof. In particular, the invention provides a surface coating protecting surfaces against graffiti or algae or fungi growth. Furthermore, the invention  
10 provides use of a surface coating as provided by the invention as masking coating. The invention furthermore provides a method to protect a surface against the undesired effect of a contamination on said surface comprising applying a coating comprising gluten or  
15 derivatives thereof to said surface, optionally, when so desired to remove a contamination, further comprising removing said contamination from said surface by removing said coating, e.g. by applying water, for example under high pressure. Preferably, a coating as provided by the  
20 invention is used in a method according to the invention to protect a surface against the undesired effect of a contamination on said surface.

In addition, the invention provides a method for  
applying a lacquer or paint pattern or picture on a  
25 surface comprising masking at least a part of said surface with a coating according to the invention further comprising applying lacquer or paint to, preferably, an unmasked part of said surface. A coating as provided by the invention is thus used in a method to mask or protect  
30 parts of a surface that thereafter is sprayed or otherwise treated with lacquer or paint in order to provide said surface with a picture or pattern. The masking coating is removed or washed off, for example by  
applying water with sufficient pressure, preferably when  
35 the paint or lacquer forming the desired pattern or picture has sufficiently set.

The invention is further explained in the detailed description without limiting the invention thereto.

Detailed description.

5

A coating as provided by the invention may for example contain the following components:

- proteinaceous substance such as wheat protein
- thickener
- 10 weakening agent
- preservative
- anti foaming agent

The thickener may be selected in the range of wheat,- or potato,- or corn starch. Thickeners like guar gum,  
15 xanthaan gum, locust bean gum, methyl-cellulose and derivatives thereof or carboxymethylcellulose and CMC derivatives can also be used. Weakening agents can be chosen out of the group of alkane-glycolen, glycerol, sorbitol, mono and or disacharrides, or others known in  
20 the art. To preserve the dispersion a preservative may be used. It can for example be chosen from the group organic acids from c-1 to c-4, sorbic acid, benzoic acid or combinations thereof. To prevent foaming an anti-foaming agent can be used. All the components may be dissolved or  
25 dispersed in a suitable fluid such as water to be applied as coating or spray.

A base suspension contains for example a protein, such as gluten, a preservative, such as propionic acid, and  
30 water. For preparation of a base suspension based on gluten the gluten is dispersed in water slowly and distributed finely while stirred continuously with an overhead stirring device. After addition of the gluten to the water the suspension is heated during stirring with  
35 an overhead stirring device to de aerate the suspension and then stirred continuously for a suitable time. The base suspension is thus obtained. Additives can be added to the water both before and after the proteinaceous

substance. If desired the additives can be mixed with the substance before the substance is dispersed.

If so desired a coating suspension as provided by the invention contains an additive, chosen from the group consisting of thickeners, plasticizers, acids, proteins, hydrophobic substances or combinations thereof. Stability of a suspension can be further improved by adding additives such as thickeners, acids proteins or combinations thereof. The addition of acids can likewise improve the stability and the rheological behaviour of the suspension. Such acids can be selected from the group consisting of inorganic acids such as hydrochloric acid, phosphoric acid, or organic acids such as lactic acid, propionic acid, ascorbic acid, citric acid or combinations thereof. Thickeners are likewise suitable for influencing the stability and the rheological behaviour of the suspension. The thickener is preferably selected from the group consisting of modified cellulose, such as carboxymethyl cellulose (further referred to as CMC), or from other modified or non-modified polysaccharides such as locust bean gum, guar gum, gum arabic, xanthan gum, alginate, starch or combinations thereof. Plasticizers are used to make the coatings flexible. The plasticizer can be chosen for instance from the group consisting of fatty acids, fatty acid derivatives, phthalates, sebacates, high-molecular alcohols, triethanolamine, lactamides, phospholipids, mono-, di-, and oligosaccharides, acids, polyols or derivatives thereof such as polyethylene glycol, polyethylene glycol esters, propylene glycol, glycerol, diglycerol, 1,2,6-hexanetriol, sorbitol, mannitol, saccharose, mono- and di-glycerides or combinations thereof. Other samples can be found in Giam et al., J. of Food Prot. 50(9), 769-782 (1987). In a preferred embodiment the plasticizer is a food compatible and/or degradable substance such as glycerol, and this is added preferably in a concentration between 0 and 45% (v/w). more preferably in a concentration between 5 and 30%.

Hydrophobic substances are used to reduce the moisture permeability of the foils or coatings. They are chosen for instance from oils, fats, waxes, emulsifiers or combinations thereof.

5

### Examples

#### Example 1

10

With laboratory trials concerning a filter-paper test the different components of a coating dispersion were screened on their influence on algae growth. The protein derivative inhibited both the growth of algae on the filter and on the remaining part of the agarmedium after inoculation of the filter with algae. The inhibiting effect of propionic acid was limited to the filter only: the non covered part of the agarmedium turned green.

#### 20 Example 2

Different trials of surface treatment of concrete tiles on the factory's premises with the product applied by paint brush or paint roller on the 1st of October 1998 changed the green film within 1 week. The original concrete colour came back. The effect remained for several months.

30

#### Example 3

Spraying the product on a concrete surface in February 1999 gave comparable effects with the October 1998 trials (see 2). Different dosages were applied and the results were comparable with those from earlier tests at the same dosage and place. Smaller dosages gave a limited effect.

35



## Example 4

- Spraying the coating on aluminium covered with a green film, gave good and comparable effects as with earlier tests (2+3): The green film disappeared and after several weeks a dried dark coloured debris was remaining. This could be removed by hand rather easily.

## Example 5

- Treating a vertical concrete wall on the factory's premises in October 1998 with the coating destroyed the green film and the original colour of the concrete came back and the algae did not come back until at least July 1999.

## Example 6

- Trials with treatment of a thatched roof of a tool shed in an enclosed garden in the summer of 1999 to remove the green film were successful.

## Example 7

- In 1998 a wooden surface in an enclosed garden was treated with a coating of the vegetable protein by writing letters on said surface with said coating. Afterwards the green film on the treated surface disappeared and at least till July 1999 the effect of the treatment has remained.

## Example 8

- In 1999 a moss overgrown wooden sleeper in an enclosed garden, also polluted with a green film, was treated with the product. The green film disappeared and the moss turned yellow, dried out and was easily removed.

## Example 9

On May 24, 1999 a wooden fence in an enclosed garden polluted with (crustaceous) lichen (esp. yellow and brown coloured) was treated with the a surface coating as provided by the invention. In June the organisms were discoloured, when compared with those on the untreated parts of the fence, and easily removed.

## 10 Example 10

Treatment of bricks of a building with a gluten coating. The green shield/film disappeared. After drying the parts which remained of the green film and coating could be removed by mechanical force rather easily. After removal, a green film developed again.

## Example 11

20 Treatment of moss on a roof with the product turned the green moss yellow. Examination under a microscope learned that no trace of chlorophyll was left. Maybe the protein is absorbed by this organism (and algae) and in the cell blocks the formation of chlorophyll.

25

## Example 12

Growth oss, growing in a lawn between grass was blocked by the product. The grass, which was thereby treated at the same time, was at first inhibited in its growth, but recovered after a while.

## Example 13

35 A coating as provided by the invention was applied to a part of a concrete wall. The following day, to said treated part and an untreated control part, graffiti was applied with a spray paint from a spray can (Histor spuitlak), which was left to dry for one day. The

following day, the wall was cleaned by applying water under high pressure or by treating it with a brush and hot water. From the treated wall, graffiti was easily removed, whereas it was impossible to remove the graffiti from the untreated part.

#### Example 14

A coating as provided by the invention was applied repeatedly to a part of a concrete wall. It was no problem to apply the coating repeatedly, every subsequent layer held well to the foregoing layer. To said multiple treated part and an untreated control part, graffiti was applied with a spray paint from a spray can (Histor sputlak), which was left to dry for one day. The following day, the wall was cleaned by applying water under high pressure or by treating it with a brush and hot water. From the treated wall, graffiti was easily removed, whereas it was impossible to remove the graffiti from the untreated part, applying only one layer of coating was sufficient for protection against graffiti.

#### Example 15

To further study the effect of a coating on the protection of a surface against graffiti, several types of graffiti (applied by spraycan "Flexa" acrylic lacquer; spraycan "Tectyl amber"; spraycan "Duplicolor" alkyd-resin lacquer, or waterproof felt-tip(pen) "Snowman" were applied to several types of surface (glass, natural stone, baked clay, concrete, steel, copper, aluminium, acrylic, fir wood, cedar wood, painted wood), treated with said coating or left untreated. After one day drying all types of graffiti were easily removed from all treated surfaces by simply brushing with water, whereas none of the untreated surfaces were satisfactorily cleaned.

### Example 16

A polyester surface of a boat was treated with a coating according to the invention. No algae growth was observed after 2 weeks.

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## NEW CLAIMS

1. A composition for a surface coating comprising a proteinaceous substance in the form of a mixture of a glutenin and a gliadin, which proteinaceous substance is dispersed in a fluid comprising at least a cross-linking or matrix forming agent.
- 5 2. A composition according to claim 1, wherein the proteinaceous substance comprises gluten derived from wheat.
3. A composition according to claim 1 or 2, wherein the cross-linking or matrix forming agent is polyvinylalcohol.
4. A composition according to claim 3, wherein the polyvinylalcohol is present in an amount of 0.5 to 20%.
- 10 5. A method to protect a surface against the undesired effect of a contamination on said surface comprising applying a coating to said surface of a composition according to any of the preceding claims.
6. A method according to claim 5, wherein the surface is mineral, metal, plastic or wood.
- 15 7. A method according to claim 5 or 6, wherein the contamination comprises graffiti, algae, moss or fungi growth.
8. A method according to any of the claims 5-7, wherein contamination is removed from said surface by removing the coating on which the contamination is deposited.
- 20 9. A method for applying a lacquer or paint pattern or picture on a surface comprising masking at least a part of said surface by applying a coating of a composition according to any of the claims 1-4, and further comprising applying lacquer or paint to said surface.
- 25 10. A method according to claim 9, further comprising removing the coating.

**Declaration and Power of Attorney Patent Application  
(Design or Utility)**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:  
"Proteinaceous coating"

the specification of which

- ☐ is attached hereto  
☒ was filed on December 21, 2001 as application serial no. 10/019,509  
and or PCT International Application number PCT/NL00/00478 and was amended  
on (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information know to me to be material to patentability as defined in 37 C.F.R. §1.56.

I hereby claim foreign priority benefits under 35 U.S.C. §119(a)-(d) or 35 U.S.C. §365(b) of any foreign application(s) for patent or inventor's certificate, or 35 U.S.C. §365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below any foreign application for patent or inventor's certificate of PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)		
Number 99202264.0	Country EP	Day/Month/Year Filed 9 July 1999
Number	Country	Day/Month/Year Filed
Number	Country	Day/Month/Year Filed

I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application(s) listed below:

Prior Provisional Application(s)	
Serial Number	Day/Month/Year Filing Date
Serial Number	Day/Month/Year Filing Date
Serial Number	Day/Month/Year Filing Date

I hereby claim the benefit under 35 U.S.C. §120 of any United States application(s), or under 35 U.S.C. §365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. §112, I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information known to me to be material to patentability as defined in 37 C.F.R. §1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

Prior U.S. or International Application(s)		
Serial Number	Day/Month/Year Filed	Status (patented, pending, abandoned)
Serial Number	Day/Month/Year Filed	Status (patented, pending, abandoned)
Serial Number	Day/Month/Year Filed	Status (patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

## Power of Attorney

As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

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I hereby authorize them or others whom they may appoint to act and rely on instructions from and communicate directly with the person/organization who/which first sends this case to them and by whom/which I hereby declare that I have consented after full disclosure to be represented unless/until I instructed otherwise.

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